CLAIMS

1. A haptotactic-peptide liposomal composition comprising at least one type of peptide and one type of liposome, wherein the peptide is characterized in that it elicits cell attachment responses and having an amino acid sequence that is at least 60% homologous to a haptotactic peptide present within the carboxy termini of fibrinogen chains, and the liposome has at least one lipid bilayer enclosing an aqueous compartment.

2. The composition of claim 1, wherein the peptide sequence is at least 80% homologous to a haptotactic peptide present within the carboxy termini of fibrinogen chains.

3. The composition of claim 1, wherein the peptide is selected from the group consisting of SEQ ID NOs. 1-3 and analogues, derivatives, homologues fragments or mimetics thereof, providing they retain cell attachment activity.

4. The composition of claim 1, wherein the peptide is selected from the group consisting of SEQ ID NOs. 4-7 and analogues, derivatives, homologues, fragments or mimetics thereof, providing they retain cell attachment activity.

5. The composition of claim 1, wherein the peptide is selected from the group consisting of SEQ ID NOs. 8-12 and analogues, derivatives, homologues, fragments or mimetics thereof, providing they retain cell attachment activity.

6. The composition of claim 1, wherein the peptide is selected from the group consisting of SEQ ID NO:13 and SEQ ID NO:14 and analogues, derivatives, homologues, fragments or mimetics thereof, providing they retain cell attachment activity.

7. The composition of claim 1 characterized in that uptake of the haptotactic-peptide liposomal composition by mammalian endothelial or fibroblast cells is enhanced at least 2 fold compared to the uptake of said liposomes absent said haptotactic peptide.

8. The composition of claim 1 wherein the liposomes comprise at least one of the group consisting of phospholipids of natural or synthetic origin; phospholipids combined with polyethylene glycol; phospholipids combined with glycerides; phosphoaminolipids cerebroglucosides and gangliosides; optionally further comprising natural or synthetic cholesterol.

9. The composition of claim 1 wherein the liposomes further comprise biologically active compound.

10. The composition of claim 9 wherein the biologically active compound is selected from the group consisting of polynucleotides, proteins, peptides, polysaccharides, hormones, drugs, steroids, fluorescent dyes and radioactive markers.

11. A method for enhancing liposome uptake into cells, comprising providing a haptotactic-peptide liposomal composition according to claim 1, and contacting cells with said composition, wherein liposomal uptake by the cells is enhanced at least two fold compared to the uptake of said liposomes absent the haptotactic peptide.

12. The method of claim 11 wherein the haptotactic-peptide liposomal composition is produced *ab initio* with at least one type of Haptide.

13. The method of claim 11 wherein the haptotactic-peptide liposomal composition is produced extemporaneously using preformed vesicles combined with at least one type of Haptide.

14. The method of any one of claims 12-13 wherein the method of producing the haptotactic-peptide liposomal composition comprises the step of dispersing lipophilic and amphiphilic components and at least one type of haptotactic peptide in an aqueous solution.

15. The method of any one of claims 11-14, wherein the peptide sequence is at least 80% homologous to a haptotactic peptide present within the carboxy termini of fibrinogen chains.

16. The method of any one of claims 11-14, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 1-3 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

17. The method of any one of claims 11-14, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 4-7 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

18. The method of any one of claims 11-14, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 8-12 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

19. The method of any one of claims 11-14, wherein haptotactic peptide is selected from the group consisting of SEQ ID NO:13 and SEQ ID NO:14 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

20. The method of any one of claims 11-14 wherein the lipid phase of the liposomes comprise at least one of the group consisting of phospholipids of natural or synthetic origin; phospholipids combined with polyethylene glycol; phospholipids combined with glycerides; phosphoaminolipids

cerebroglucosides and gangliosides; optionally further comprising natural or synthetic cholesterol.

21. The method of claim 11 wherein the cells are selected from the group consisting of mammalian cells including leukocytes, and cells from mesenchymal origin including astrocytes, chondrocytes, dendritic cells, endothelial cells, fibroblasts, glial cells, neurons, kidney cells, liver cells, melanocytes, mesenchymal cells, myofibroblasts, monocytes, parenchymal cells, pancreatic cells, smooth muscle cells and thyroid cells, malignant and transformed cells.

22. A method for enhancing intracellular uptake of biologically active compounds characterized by low-permeability through the cell membrane using a haptotactic-peptide liposomal composition, the method comprising the steps of providing a haptotactic-peptide liposomal composition, wherein the liposomes comprise biologically active molecules characterized by low permeability through cell membrane, and contacting cells with the haptotactic-peptide liposomal composition, wherein the molecules uptake is enhanced at least two fold compared to the uptake of said molecules detached from said haptotactic-peptide liposomal composition.

23. The method of claim 22 wherein the haptotactic-peptide liposomal composition is produced *ab initio* with at least one type of Haptide and at least one type of biologically active molecule.

24. The method of claim 22 wherein the haptotactic-peptide liposomal composition is produced extemporaneously using preformed vesicles comprising at least one type of biologically active molecule combined with at least one type of Haptide.

25. The method of any one of claims claim 23-24 wherein the method of producing the haptotactic-peptide liposomal composition comprises the

step of dispersing lipophilic and amphiphilic components, at least one type of haptotactic peptide and at least one type of biologically active molecule in an aqueous solution.

26. The method of any one of claims 22-25, wherein the peptide sequence is at least 80% homologous to a haptotactic peptide present within the carboxy termini of fibrinogen chains.

27. The method of any one of claims 22-25, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 1-3 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

28. The method of any one of claims 22-25, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 4-7 and analogues, derivatives, homologues, mimetics or fragments thereof, providing they retain cell attachment activity.

29. The method of any one of claims 22-25, wherein haptotactic peptide is selected from the group consisting of SEQ ID NOs. 8-12 and analogues, derivatives, homologues or fragments thereof, providing they retain cell attachment activity.

30. The method of any one of claims 22-25wherein haptotactic peptide is selected from the group consisting of SEQ ID NO:13 and SEQ ID NO:14 and analogues, derivatives, homologues or fragments thereof, providing they retain cell attachment activity.

31. The method of any one of claims 22-25 wherein the lipid phase of the liposomes comprise at least one of the group consisting of phospholipids of natural or synthetic origin; phospholipids combined with polyethylene glycol; phospholipids combined with glycosides; phosphoaminolipids

cerebroglucosides and gangliosides; optionally further comprising natural or synthetic cholesterol.

32. The method of claim 22 wherein the cells are selected from a group consisting of mammalian cells including leukocytes, and cells from mesenchymal origin including astrocytes, chondrocytes, dendritic cells, endothelial cells, fibroblasts, glial cells, neurons, kidney cells, liver cells, melanocytes, mesenchymal cells, myofibroblasts, monocytes, parenchymal cells, pancreatic cells, smooth muscle cells, thyroid cells, malignant and transformed cells.

33. The method of any one of claims 22-25 wherein the biologically active compound within the liposomes is selected form the group consisting of polynucleotides, proteins, peptides, polysaccharides, hormones, drugs, steroids, fluorescent markers and radioactive markers.

34. A pharmaceutical composition comprising Haptotactic Peptide-Liposomal composition, wherein the liposomes comprise at least one active ingredient having a diagnostic or therapeutic activity, said liposomes are formulated in a pharmaceutically acceptable diluent or carrier.

35. The pharmaceutical composition of claim 34 wherein the active ingredient is selected from the group consisting of a cytotoxic compound, a cytostatic compound, an antisense compound, an anti-viral agent, a specific antibody and an imaging agent.

36. A cosmetic composition comprising Haptotactic Peptide-Liposomal composition, wherein the liposomes have a cosmetic beneficial effect.

37. A method for enhancing the delivery of a pharmaceutical agent into cells comprising the step of administering to a subject in need thereof a therapeutically effective amount of a haptotactic peptide-liposomal

pharmaceutical composition wherein the liposomes of the composition further comprise a pharmaceutically effective agent.

38. The method of claim 37 wherein the pharmaceutical composition is administered parenterally, topically, orally or by inhalation.

39. A method for enhancing the delivery of a diagnostic agent into cells comprising the step of administering to a subject in need thereof a diagnostically effective amount of a haptotactic peptide-liposomal pharmaceutical composition wherein the liposomes of the composition further comprise a diagnostically effective agent.

40. The method of claims 39 wherein the pharmaceutical composition is administered parenterally, topically or orally.

41. A method for enhancing the delivery of cosmetically effective liposomes into cells comprising the step of administering to a subject in need thereof a haptotactic peptide-liposomal composition wherein the liposomes of the composition have a cosmetic beneficial effect.

42. The method of claim 41 wherein the liposomes further comprise an active ingredient having a cosmetically beneficial effect.

43. The method of claims 41 wherein the cosmetic composition is administered topically.

44. Use of a haptotactic peptide-liposomal composition wherein the liposomes of the composition further comprise a pharmaceutically effective agent for enhancing the delivery of the pharmaceutically effective agent into cell.

45. Use of a haptotactic peptide-liposomal composition wherein the liposomes of the composition further comprise a diagnostically effective agent for enhancing the delivery of the diagnostically effective agent into cells.

46. Use of a haptotactic peptide-liposomal composition wherein the liposomes of the composition have a cosmetically beneficial effect for enhancing the delivery of the cosmetically effective liposomes into cells.

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47. The use of claim 46 wherein the liposomes further comprise a cosmetically beneficial agent.